

6 determining, at the remote device, if the transport header of said message
7 identifies the message as a remote Direct Memory Access (rDMA) read operation;
8 and

9 if the transport header of said message identifies the message as said remote
10 Direct Memory Access (rDMA) read operation, then performing a remote Direct
11 Memory Access (rDMA) write operation at the local device in accordance with data
12 elements included in said message.

1 2. (Amended) The method as claimed in claim 1, wherein the data
2 elements in said rDMA read message identify a set of source buffers in the remote
3 device which reference the remote memory and a set of destination buffers in the
4 local device that reference the local memory.

1 3. (Amended) The method as claimed in claim 2, wherein the source
2 buffers and destination buffers are registered with a Virtual Interface (VI) network
3 interface controller of the remote device and the local device, respectively.

1 4. (Amended) The method as claimed in claim 3, wherein the data
2 elements of the rDMA read message specify the source buffers and destination
3 buffers as multiple data segments with offsets and designate a channel of the Virtual
4 Interface (VI) as a data path for the rDMA write operation.

1 5. (Amended) The method as claimed in claim 4, wherein one data
2 element of the rDMA read message specifies a last data segment and completion of
3 the rDMA read request.

1 6. (Amended) The method as claimed in claim 5, wherein the data is
2 read from the remote memory of the remote device directly into the local memory of
3 the local device over the Virtual Interface (VI), without making an intermediate copy
4 of the data.

C/Cont 1 7. (Amended) The method as claimed in claim 6, wherein the remote
2 device builds virtual interface rDMA write descriptors with a sequence inserted into
3 an immediate data field on a last data segment of each rDMA read request.

1 8. (Amended) The method as claimed in claim 7, wherein the
2 completion of the data transfer is processed at the local device, based on the
3 immediate data that arrives with the last data segment of each rDMA write operation
4 by the remote device.

1 9. (Amended) A network device initiating a method to read data in a
2 remote memory of a remote device directly into a local memory, said network device
3 having a network interface controller (NIC) configured to perform the following:
4 receiving a message from the remote device, via a network, said message
5 including a transport header indicating a message type;

6 processing said message to determine if the transport header of said
7 message identifies the message as a remote Direct Memory Access (rDMA) read
8 operation; and

9 if the transport header of said message identifies the message as said remote
10 Direct Memory Access (rDMA) read operation, then performing a remote Direct
11 Memory Access (rDMA) write operation in accordance with data elements included in
12 said message.

1 10. (Amended) The network device as claimed in claim 9, wherein the
2 data elements of the rDMA read message identify a set of source buffers in the
3 remote device which reference the remote memory and a set of destination buffers in
4 the local device that reference the local memory.

1 11. (Amended) The network device as claimed in claim 10, wherein the
2 source buffers and destination buffers are registered with the network interface
3 controller (NIC) of the remote device and the network device, respectively.

1 12. (Amended) The network device as claimed in claim 11, wherein the
2 data elements of the rDMA read message specify the source buffers and destination
3 buffers as multiple data segments with offsets and designate a channel of a Virtual
4 Interface (VI) as a data path for the rDMA write operation.

1 13. (Amended) The network device as claimed in claim 12, wherein one
2 data element of the rDMA read message specifies a last data segment and
3 completion of the rDMA read request.

1 14. (Amended) The network device as claimed in claim 13, wherein the
2 data is read from the remote memory of the remote device directly into the local
3 memory of the network device over the Virtual Interface (VI), without making an
4 intermediate copy of the data.

1 15. (Amended) The network device as claimed in claim 14, wherein the
2 remote device builds rDMA write descriptors with a sequence inserted into an
3 immediate data field on the last data segment of each rDMA read request.

1 16. (Amended) The network device as claimed in claim 15, wherein the
2 completion of the data transfer is processed based on the immediate data that
3 arrives with the last data segment of each rDMA write operation by the remote
4 device.

1 17. (Amended) A tangible medium storing a plurality of program
2 instructions, which, when executed by a processor installed in a network device,
3 causes the network device to perform the following:
4 receiving a message from a remote device, via a network, said message
5 including a transport header indicating a message type;

6 processing said message to determine if the transport header of said
7 message identifies the message as a remote Direct Memory Access (rDMA) read
8 operation; and

9 if the transport header of said message identifies that the message is said
10 remote Direct Memory Access (rDMA) read operation, then performing a remote
11 Direct Memory Access (rDMA) write operation in accordance with data elements
12 included in said message.

1 18. (Amended) The tangible medium as claimed in claim 17, wherein the
2 data elements of the rDMA read message identify a set of source buffers in the
3 remote device which reference a remote memory and a set of destination buffers in
4 the network device that reference a local memory.

1 19. (Amended) The tangible medium as claimed in claim 18, wherein the
2 source buffers and destination buffers are registered with a network interface
3 controller (NIC) of the remote device and the network device, respectively.

1 20. (Amended) The tangible medium as claimed in claim 19, wherein the
2 data elements of the rDMA read message specify the source buffers and destination
3 buffers as multiple data segments with offsets and designate a channel of a Virtual
4 Interface (VI) as a data path for the rDMA write operation.

1 21. (Amended) The tangible medium as claimed in claim 20, wherein one
2 data element of the rDMA read message specifies a last data segment and
3 completion of the rDMA read request.

1 22. (Amended) The tangible medium as claimed in claim 21, wherein the
2 data is read from the remote memory of the remote device directly into the local
3 memory of the network device over a Virtual Interface (VI), without making an
4 intermediate copy of the data.

1 23. (Amended) The tangible medium as claimed in claim 22, wherein the
2 remote device builds virtual interface rDMA write descriptors with a sequence
3 inserted into an immediate data field on the last data segment of each rDMA read
4 request.

1 24. (Amended) The tangible medium as claimed in claim 7, wherein the
2 completion of the data transfer is processed based on the immediate data that
3 arrives with the last data segment of each rDMA write operation by the remote
4 device.